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ABSTRACT

An intervention study with mothers and infants is discussed. The project staff consisted of two home visitors, a materials specialist, an infant examiner, and a project coordinator. This study assessed the effectiveness of the program for mothers and infants. Infant abilities and psychological development were tested and homes were rated. One home visitor worked directly in each home for a maximum of 24 home visits. Throughout the project, the home visitor demonstrated and reinforced behavior of the adult caretaker that provides for the physical, emotional, social, and intellectual development of infants. Data analysis indicated that a successful intervention program can be designed to affect favorably a wide range of functional areas in the behavioral development of infants. (Author/CK)

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The Intervention Study With Mothers and Infants

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The Intervention Study with Mothers and Infants was conducted at the Demonstration and Research Center for Early Education (DARCEE) of the John F. Kennedy Center for Research on Education and Human Development at George Peabody College, Nashville, Tennessee. The project was performed pursuant to a contract with the Office of Education, United States Department of Health, Education, and Welfare, National Program on Early Childhood Education (NPECE). The staff consisted of two home visitors, a materials specialist, an infant examiner, and a project coordinator. The purpose of this study was to assess the effectiveness of a home intervention program for mothers and infants.

Several of DARCEE's earlier efforts suggested that there should be a downward extension of some of our home visitor techniques and our curriculum model for work with mothers of infants. This project focused on infant growth and development in terms of gross-motor, fine-motor, cognitive, language, and personal-social development. Evaluations were made of instruments for infant testing, home visitor techniques that modify teaching practices of mothers, and materials to foster infant development.

The project staff was involved in a variety of activities in the conduct of this study. (See page 2.)

Twenty young white and black mothers from low-income homes and their infants, who were between seven and nine months of age, were selected and recruited with the help of the Metropolitan-Nashville Davidson County Well-Baby Clinics. An equal number of mother-infant dyads were in the comparison group.

MAJOR ACTIVITIES IN THE INTERVENTION STUDY WITH MOTHERS AND INFANTS

PLANNING began in 1969.

SUBJECT SELECTION AND RECRUITMENT began in December, 1969.

INFANT EVALUATION began February 25th (Bayley Scales--Mental, Motor, Social; Griffiths; Uzgiris-Hunt).
Pretest Findings--Implications for Home Visits and Implementation. Maternal Behavior During Testing.

HOME STIMULATION INVENTORY began March 31st--Implications for Home Visits and Implementation.

SESSIONS or CYCLES of HOME VISITS		(Holidays)	EVALUATION-PLANNING
I. April 6th - April 17th	(2)	(Easter, Mar. 29th)	April 20th - April 24th
II. April 27th - May 29th	(5)	(Break, May 29th-June 7th)	June 8th - June 12th
III. June 15th - July 10th	(4)	(Independence Day, July 4th)	July 13th - July 17th
IV. July 20th - Aug. 14th	(4)	(Between Semesters, Aug. 14th-Sept. 8th)	PLANNING: Sept. 9th - 11th RE-EVALUATION: Sept. 14th-18th (Used an Evaluation Guide)
V. Sept. 14th - Oct. 16th	(5)		Oct. 19th - Oct. 23rd (Outlined Last Phase)
VI. Oct. 26th - Nov. 20th	(4)	(Thanksgiving, Nov. 26th)	TERMINAL EVALUATION (Home Visitor Reports)
Nov. 23rd - Nov. 25th (Make-up visits)	(24) Total		
POSTTE$TING: Nov. 30th - Dec. 19th		(Christmas, Dec. 19th - Jan. 4th)	CHRISTMAS PARTY: Dec. 17th

FOLLOW-UP TESTING: June, 1971.

PREPARATION OF MANUALS: July and August, 1971.

PREPARATION OF FINAL REPORT: September-December, 1971.

Instruments for Infant Testing

Infant abilities and psychological development were tested using the Griffith Mental Development Scale, the Infant Psychological Development Scale by Uzgiris-Hunt, and the Bayley Scales of Mental and Motor Development. Maternal Behavior During Testing was observed. Homes were rated using the Caldwell Inventory of Home Stimulation.

Home Visiting with Mothers and Infants

One home visitor worked directly in each home, for one hour or more per visit, for a maximum of twenty-four home visits. The home visitor was constantly mindful of general physical conditions that facilitate growth and human interactions that promote learning. Specific attention was given to physical and social features of the home. Guidelines for weekly home visits were followed, and suggestions were made for daily temporal and spatial organization of the home. Throughout the project, the home visitor demonstrated and reinforced behavior of the adult caretaker that provides for the physical, emotional, social, and intellectual development of infants.

During the implementation phase of the study, the project staff had meetings to discuss progress, problems, and prospects. The implementation phase included six sessions or six cycles of home visits, from April through November, 1970. One-week evaluation and planning activities preceded each of the six sessions. Overriding goals dominated each of the six sessions.

(Session I) Initial visits focused on physical care in the relatively structured routines of bathing, dressing, feeding, diapering, etc. The social and cognitive components of these activities were pointed out to the mother. Information regarding infant growth and development

was disseminated at a level appropriate to each mother. Scribbling samples were obtained each week during all six sessions.

(Session II) The next emphasis was placed on improving the mother's ability to observe and record the baby's behavior and development and to make suggested play materials. A steno-pad to record observations and materials to make playthings were distributed. Concrete evidence of development and learning was pointed to and emphasized. Each mother observed and recorded the eruption of teeth, the infant's vocalizations and verbalizations, and new behaviors.

(Session III) All mothers were encouraged to carry out regular between visits activities with their infants and to select appropriate toys or playthings. Behavior management of infants--rewarding, reinforcing, disciplining, gaining the infant's attention, etc., were dominant goals.

(Session IV) As training progressed, the home visitor systematically fostered the increasing involvement of the mother in the conduct of activities during the visit with the ultimate goal of making the mother independent of the home visitor in serving as an educational change agent for her infant. The role of the father in the family and suggestions for father involvement showed the father's interest in playing with the infant and in complimenting the efforts of the mother and the home visitor.

(Session V) Each mother was asked to verbalize to the home visitor some of the things she had observed about her infant during the between semesters break. Categories of observation were motor development,

speech development, new behavior, discipline, toilet training, environmental changes, materials they had made, eating habits, social habits, maternal behavior, provision of new playthings and father involvement. The overriding goal of this session was to make the mother increasingly more independent of the home visitor.

(Session VI) During the final session, there was a review of the project with the mother, a phase-out or weaning, and an outlining of expectations the mother can have for her child after eighteen months of age.

Materials Selection and Development

Materials used in the project were viewed in terms of how they could contribute to the infant's emerging abilities and interests. The focus was on specifying what to use, why to use it, how to use it, and the sequencing of materials and activities. Special attention was given to household objects, reusable containers, inexpensive purchases, and multipurpose inexpensive toys. Activities were suggested which were feasible in the context of the household routine and the life style of the family. Familiar songs, games, dances, nursery rhymes, and riddles were used to maximize parents' interaction with infants.

Preparation of Project Reports

Project staff members have prepared reports of instruments for infant testing, home visitor techniques that modify teaching practices of mothers, and materials to foster infant development.

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Infant Evaluation. Data which has been analyzed so far indicates that a successful intervention program can be designed to affect favorably a wide range of functional areas in the behavioral development of infants. The experimental group of infants scored significantly higher ($p < .002$) than the comparison group on the Bayley Mental Scale, the Griffith Mental Development Scale, and the Uzgiris-Hunt Scale. A presentation of the Infant Evaluation Results, comparing the experimental group with the comparison group, on the three instruments is made on the following page.

Home Visitor Techniques for Working with Mothers and Infants. The home visitors have seen that home visiting, while focusing on a target infant, has provided input for the mother's interaction with, and socialization of, other children. The home visitors and the other project staff members believe effective caretakers in a home setting or in a community setting have similar objectives and practices that relate to young children. Home visitor techniques for working with mothers and infants were comparable to those used in working with mothers of preschool children. There is continuity between work with infants, toddlers, and preschoolers. The DARCEE curriculum model was extended downward, as the home visitors devised activities for visual, auditory, tactile-kinesthetic, taste-olfactory, motor, and affective perceptions and discriminations.

The home visitors and other members of the DARCEE Infant Study staff completed a procedural manual, Home Visiting with Mothers and Infants (Forrester, Hardge, Outlaw, Brooks, Boismier, 1971), for

ATTACHMENT A

DARCEE INFANT STUDY: INFANT EVALUATION RESULTS

The Experimental Group versus the Comparison Group on three instruments:

BAYLEY SCALES OF INFANT DEVELOPMENT

MENTAL SCALE yields a Mental Development Index (MDI)

E > C (p < .001) (Mean 118.60 > 100.90)

MOTOR SCALE yields a Psychomotor Development Index (PDI)

E = C (p < .15) (Mean 113.75 = 108.20)

GRIFFITH MENTAL DEVELOPMENT SCALE

QUOTIENT

E > C (p < .002) (Mean 105.00 > 96.60)

SCALE A - LOCOMOTION

E = C (p < .22) (Mean 107.20 = 104.09)

SCALE B - PERSONAL-SOCIAL

E = C (p < .06) (Mean 100.65 = 93.65)

SCALE C - HEARING AND SPEECH

E > C (p < .002) (Mean 104.60 > 91.75)

SCALE D - EYE AND HAND

E > C (p < .0001) (Mean 110.80 > 99.60)

SCALE E - PERFORMANCE

E = C (p < .56) (Mean 97.20 = 93.70)

UZGIRIS-HUNT SCALE (INFANT PSYCHOLOGICAL DEVELOPMENT SCALE)

TOTAL SCORE

E > C (p < .002) (Mean 91.85 > 82.50)

SCALE I. VISUAL PURSUIT AND PERMANENCE OF OBJECTS

E > C (p < .05) (Mean 26.75 > 23.30)

SCALE II. DEVELOPMENT OF MEANS OF ACHIEVING DESIRED ENVIRONMENTAL EVENTS

E = C (p < .70) (Mean 20.60 = 21.05)

SCALE III. DEVELOPMENT OF SCHEMAS IN RELATION TO OBJECTS

E > C (p < .002) (Mean 6.95 > 6.50)

SCALE IV. DEVELOPMENT OF CAUSALITY

E = C (p < .22) (Mean 2.15 = 1.80)

SCALE V. CONSTRUCTION OF OBJECTS IN SPACE

E > C (p < .03) (Mean 17.10 > 15.85)

SCALE VI. DEVELOPMENT OF IMITATION

E > C (p < .0000) (Mean 17.30 > 14.40)

working with mothers and infants. This manual is a supplement to the DARCEE prepared, Guide for Home Visitors, and is available through the DARCEE Information Office.

Materials Selection and Development. During each visit, the home visitor introduced and demonstrated materials that foster infant development. The materials specialist prepared toys, assembled materials for the preparation of playthings, and coordinated the intake and distribution of materials distributed by the home visitors.

Materials for Infant Development (Forrester, Brooks, Hardge, & Outlaw) was prepared for dissemination of information about materials used during the conduct of the Intervention Study with Mothers and Infants.

The project staff members give special thanks to the families.

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